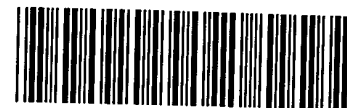


6. Ewoldt

ENTERED



## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/582,340A

DATE: 09/12/2002

TIME: 13:50:24

Input Set : A:\255-013.st25.txt

Output Set: N:\CRF4\09122002\I582340A.raw

3 <110> APPLICANT: Institute National De La Sante Et De La Recherche Medicale  
 4 Raposo, Graca  
 5 Thery, Clotilde  
 6 Amigorena, Sebastian  
 8 <120> TITLE OF INVENTION: COMPOSITIONS AND METHODS USING LACTADHERIN OR VARIANTS  
 THEREOF

10 <130> FILE REFERENCE: 255/013 KTM  
 12 <140> CURRENT APPLICATION NUMBER: US 09/582,340A  
 13 <141> CURRENT FILING DATE: 1999-11-23  
 15 <160> NUMBER OF SEQ ID NOS: 6  
 17 <170> SOFTWARE: PatentIn version 3.1  
 19 <210> SEQ ID NO: 1  
 20 <211> LENGTH: 1934  
 21 <212> TYPE: DNA  
 22 <213> ORGANISM: Homo sapiens  
 24 <220> FEATURE:  
 25 <221> NAME/KEY: CDS  
 26 <222> LOCATION: (61)..(1224)  
 27 <223> OTHER INFORMATION:  
 30 <400> SEQUENCE: 1  
 31 agaaccccgcc ggggtctgag cagcccagcg tgcccatgcc agcgcccgcg tccccgcagc 60  
 33 atg ccg cgc ccc cgc ctg ctg gcc gcg ctg tgc ggc gcg ctg ctc tgc 108  
 34 Met Pro Arg Pro Arg Leu Leu Ala Ala Leu Cys Gly Ala Leu Leu Cys  
 35 1 5 10 15  
 37 gcc ccc agc ctc ctc gtc gcc ctg gat atc tgt tcc aaa aac ccc tgc 156  
 38 Ala Pro Ser Leu Leu Val Ala Leu Asp Ile Cys Ser Lys Asn Pro Cys  
 39 20 25 30  
 41 cac aac ggt ggt tta tgc gag gag att tcc caa gaa gtg cga gga gat 204  
 42 His Asn Gly Gly Leu Cys Glu Glu Ile Ser Gln Glu Val Arg Gly Asp  
 43 35 40 45  
 45 gtc ttc ccc tcg tac acc tgc acg tgc ctt aag ggc tac gcg ggc aac 252  
 46 Val Phe Pro Ser Tyr Thr Cys Thr Cys Leu Lys Gly Tyr Ala Gly Asn  
 47 50 55 60  
 49 cac tgt gag acg aaa tgt gtc gag cca ctg ggc atg gag aat ggg aac 300  
 50 His Cys Glu Thr Lys Cys Val Glu Pro Leu Gly Met Glu Asn Gly Asn  
 51 65 70 75 80  
 53 att gcc aac tca cag atc gcc gcc tca tct gtg cgt gtg acc ttc ttg 348  
 54 Ile Ala Asn Ser Gln Ile Ala Ala Ser Ser Val Arg Val Thr Phe Leu  
 55 85 90 95  
 57 ggt ttg cag cat tgg gtc ccg gag ctg gcc cgc ctg aac cgc gca ggc 396  
 58 Gly Leu Gln His Trp Val Pro Glu Leu Ala Arg Leu Asn Arg Ala Gly  
 59 100 105 110  
 61 atg gtc aat gcc tgg aca ccc agc agc aat gac gat aac ccc tgg atc 444  
 62 Met Val Asn Ala Trp Thr Pro Ser Ser Asn Asp Asp Asn Pro Trp Ile

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/582,340A

DATE: 09/12/2002

TIME: 13:50:24

Input Set : A:\255-013.st25.txt

Output Set: N:\CRF4\09122002\I582340A.raw

63	115	120	125	
65	cag	gtg	aac	ctg
66	Gln	Val	Asn	Leu
67	130			
69	ggt	gcc	agc	cgc
70	Gly	Ala	Ser	Arg
71	145			
73	gcc	tac	agc	ctt
74	Ala	Tyr	Ser	Leu
75				
77	aaa	aaa	cac	aag
78	Lys	Lys	His	Lys
79				
81	gtc	aac	ctg	ttt
82	Val	Asn	Leu	Phe
83				
85	ccc	acg	agc	tgc
86	Pro	Thr	Ser	Cys
87				
89	tgt	gag	ctg	aac
90	Cys	Glu	Leu	Asn
91	225			
93	atc	cct	gac	aag
94	Ile	Pro	Asp	Lys
95				
97	ttg	cat	ctc	ttc
98	Leu	His	Leu	Phe
99				
101	ggc	aac	ttc	aac
102	Gly	Asn	Phe	Asn
103				
105	ctg	cag	gtg	gac
106	Leu	Gln	Val	Asp
107				
109	cag	ggg	gcc	cgt
110	Gln	Gly	Ala	Arg
111	305			
113	ggt	gcc	tac	agt
114	Val	Ala	Tyr	Ser
115				
117	agg	act	ggc	agc
118	Arg	Thr	Gly	Ser
119				
121	cac	aag	aag	aac
122	His	Lys	Lys	Asn
123				
125	atc	ctg	cct	gta
126	Ile	Leu	Pro	Val
127				

## RAW SEQUENCE LISTING

DATE: 09/12/2002

PATENT APPLICATION: US/09/582,340A

TIME: 13:50:24

Input Set : A:\255-013.st25.txt

Output Set: N:\CRF4\09122002\I582340A.raw

```

129 ctg ggc tgt tag tggccacctg ccacccccag gtcttcctgc tttccatggg      1264
130 Leu Gly Cys
131 385
133 cccgctgcct cttggcttct cagccccctt aaatcaccat agggctgggg actggggaag      1324
135 gggagggtgt tcagaggcag caccaccaca cagtcacccc tccctccctc tttcccaccc      1384
137 tccacctctc acggggccctg ccccagcccc taagccccgt cccctaacc cagtcctca      1444
139 ctgtcctgtt ttcttaggca ctgagggatc tgagtaggtc tgggatggac aggaaagggc      1504
141 aaagtagggc gtgtggtttc cctgccccctg tccggaccgc cgateccagg tgcgtgtgtc      1564
143 tctgtctctc ctagccccctc tctcacacat cacattccca tgggtggcctc aagaaaggcc      1624
145 cggaagcccc aggtctggaga taacagcctc ttgcccgtcg gccctgcgtc ggcctggggg      1684
147 taccatgtgc cacaactgct gtggccccct gtccccaaga cacttccctc tgtctccctg      1744
149 gttgcctctc ttgccccttg tctgaagcc cagcgacaca gaagggggtg gggcggtgtc      1804
151 atggggagaa agggagcgag gtcagaggag ccggcatggg ttggcagggt gggcggtgtg      1864
153 ggcctcatg ctggcttttc accccagagg acacaggcag cttccaaaat atatttatct      1924
155 tcttcaaggg      1934
158 <210> SEQ ID NO: 2
159 <211> LENGTH: 387
160 <212> TYPE: PRT
161 <213> ORGANISM: Homo sapiens
163 <400> SEQUENCE: 2
165 Met Pro Arg Pro Arg Leu Leu Ala Ala Leu Cys Gly Ala Leu Leu Cys
166 1 5 10 15
169 Ala Pro Ser Leu Leu Val Ala Leu Asp Ile Cys Ser Lys Asn Pro Cys
170 20 25 30
173 His Asn Gly Gly Leu Cys Glu Glu Ile Ser Gln Glu Val Arg Gly Asp
174 35 40 45
177 Val Phe Pro Ser Tyr Thr Cys Thr Cys Leu Lys Gly Tyr Ala Gly Asn
178 50 55 60
181 His Cys Glu Thr Lys Cys Val Glu Pro Leu Gly Met Glu Asn Gly Asn
182 65 70 75 80
185 Ile Ala Asn Ser Gln Ile Ala Ala Ser Ser Val Arg Val Thr Phe Leu
186 85 90 95
189 Gly Leu Gln His Trp Val Pro Glu Leu Ala Arg Leu Asn Arg Ala Gly
190 100 105 110
193 Met Val Asn Ala Trp Thr Pro Ser Ser Asn Asp Asp Asn Pro Trp Ile
194 115 120 125
197 Gln Val Asn Leu Leu Arg Arg Met Trp Val Thr Gly Val Val Thr Gln
198 130 135 140
201 Gly Ala Ser Arg Leu Ala Ser His Glu Tyr Leu Lys Ala Phe Lys Val
202 145 150 155 160
205 Ala Tyr Ser Leu Asn Gly His Glu Phe Asp Phe Ile His Asp Val Asn
206 165 170 175
209 Lys Lys His Lys Glu Phe Val Gly Asn Trp Asn Lys Asn Ala Val His
210 180 185 190
213 Val Asn Leu Phe Glu Thr Pro Val Glu Ala Gln Tyr Val Arg Leu Tyr
214 195 200 205
217 Pro Thr Ser Cys His Thr Ala Cys Thr Leu Arg Phe Glu Leu Leu Gly
218 210 215 220
221 Cys Glu Leu Asn Gly Cys Ala Asn Pro Leu Gly Leu Lys Asn Asn Ser

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/582,340A

DATE: 09/12/2002

TIME: 13:50:24

Input Set : A:\255-013.st25.txt

Output Set: N:\CRF4\09122002\I582340A.raw

```

222 225          230          235          240
225 Ile Pro Asp Lys Gln Ile Thr Ala Ser Ser Ser Tyr Lys Thr Trp Gly
226          245          250          255
229 Leu His Leu Phe Ser Trp Asn Pro Ser Tyr Ala Arg Leu Asp Lys Gln
230          260          265          270
233 Gly Asn Phe Asn Ala Trp Val Ala Gly Ser Tyr Gly Asn Asp Gln Trp
234          275          280          285
237 Leu Gln Val Asp Leu Gly Ser Ser Lys Glu Val Thr Gly Ile Ile Thr
238          290          295          300
241 Gln Gly Ala Arg Asn Phe Gly Ser Val Gln Phe Val Ala Ser Tyr Lys
242 305          310          315          320
245 Val Ala Tyr Ser Asn Asp Ser Ala Asn Trp Thr Glu Tyr Gln Asp Pro
246          325          330          335
249 Arg Thr Gly Ser Ser Lys Ile Phe Pro Gly Asn Trp Asp Asn His Ser
250          340          345          350
253 His Lys Lys Asn Leu Phe Glu Thr Pro Ile Leu Ala Arg Tyr Val Arg
254          355          360          365
257 Ile Leu Pro Val Ala Trp His Asn Arg Ile Ala Leu Arg Leu Glu Leu
258          370          375          380
261 Leu Gly Cys
262 385
265 <210> SEQ ID NO: 3
266 <211> LENGTH: 2077
267 <212> TYPE: DNA
268 <213> ORGANISM: Marine
270 <220> FEATURE:
271 <221> NAME/KEY: CDS
272 <222> LOCATION: (46)..(1434)
273 <223> OTHER INFORMATION:
276 <400> SEQUENCE: 3
277 gaattccgca tcagagcgcg tggacctttt cccgcgtccc gcagc atg cag gtc tcc      57
278                               Met Gln Val Ser
279                               1
281 cgt gtg ctg gcc gcg ctg tgc ggc atg cta ctc tgc gcc tct ggc ctc      105
282 Arg Val Leu Ala Ala Leu Cys Gly Met Leu Leu Cys Ala Ser Gly Leu
283 5          10          15          20
285 ttc gcc gcg tct ggt gac ttc tgt gac tcc agc ctg tgc ctg aac ggt      153
286 Phe Ala Ala Ser Gly Asp Phe Cys Asp Ser Ser Leu Cys Leu Asn Gly
287          25          30          35
289 ggc acc tgc ttg acg ggc caa gac aat gac atc tac tgc ctc tgc cct      201
290 Gly Thr Cys Leu Thr Gly Gln Asp Asn Asp Ile Tyr Cys Leu Cys Pro
291          40          45          50
293 gaa ggc ttc aca ggc ott gtg tgc aat gag act gag aga gga cca tgc      249
294 Glu Gly Phe Thr Gly Leu Val Cys Asn Glu Thr Glu Arg Gly Pro Cys
295          55          60          65
297 tcc cca aac cct tgc tac aat gat gcc aaa tgt ctg gtg act ttg gac      297
298 Ser Pro Asn Pro Cys Tyr Asn Asp Ala Lys Cys Leu Val Thr Leu Asp
299          70          75          80
301 aca cag cgt ggg gac atc ttc acc gaa tac atc tgc cag tgc cct gtg      345

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/582,340A

DATE: 09/12/2002

TIME: 13:50:24

Input Set : A:\255-013.st25.txt

Output Set: N:\CRF4\09122002\I582340A.raw

302	Thr	Gln	Arg	Gly	Asp	Ile	Phe	Thr	Glu	Tyr	Ile	Cys	Gln	Cys	Pro	Val	
303	85					90					95					100	
305	ggc	tac	tcg	ggc	atc	cac	tgt	gaa	acc	gag	acc	aac	tac	tac	aac	ctg	393
306	Gly	Tyr	Ser	Gly	Ile	His	Cys	Glu	Thr	Glu	Thr	Asn	Tyr	Tyr	Asn	Leu	
307					105					110					115		
309	gat	gga	gaa	tac	atg	ttc	acc	aca	gcc	gtc	ccc	aat	act	gcc	gtc	ccc	441
310	Asp	Gly	Glu	Tyr	Met	Phe	Thr	Thr	Ala	Val	Pro	Asn	Thr	Ala	Val	Pro	
311				120					125					130			
313	acc	ccg	gcc	ccc	acc	ccc	gat	ctt	tcc	aac	aac	cta	gcc	tcc	cgt	tgt	489
314	Thr	Pro	Ala	Pro	Thr	Pro	Asp	Leu	Ser	Asn	Asn	Leu	Ala	Ser	Arg	Cys	
315			135					140					145				
317	tct	aca	cag	ctg	ggc	atg	gaa	ggg	ggc	gcc	att	gct	gat	tca	cag	att	537
318	Ser	Thr	Gln	Leu	Gly	Met	Glu	Gly	Gly	Ala	Ile	Ala	Asp	Ser	Gln	Ile	
319		150					155					160					
321	tcc	gcc	tcg	tat	gtg	tat	atg	ggt	ttc	atg	ggc	ttg	cag	cgc	tgg	ggc	585
322	Ser	Ala	Ser	Tyr	Val	Tyr	Met	Gly	Phe	Met	Gly	Leu	Gln	Arg	Trp	Gly	
323	165					170					175					180	
325	ccg	gag	ctg	gct	cgt	ctg	tac	cgc	aca	ggg	atc	gtc	aat	gcc	tgg	cac	633
326	Pro	Glu	Leu	Ala	Arg	Leu	Tyr	Arg	Thr	Gly	Ile	Val	Asn	Ala	Trp	His	
327					185					190					195		
329	gcc	agc	aac	tat	gat	agc	aag	ccc	tgg	atc	cag	gtg	aac	ctt	ctg	cgg	681
330	Ala	Ser	Asn	Tyr	Asp	Ser	Lys	Pro	Trp	Ile	Gln	Val	Asn	Leu	Leu	Arg	
331			200					205						210			
333	aag	atg	cgg	gta	tca	ggt	gtg	atg	acg	cag	ggt	gcc	agc	cgt	gcc	ggg	729
334	Lys	Met	Arg	Val	Ser	Gly	Val	Met	Thr	Gln	Gly	Ala	Ser	Arg	Ala	Gly	
335			215					220					225				
337	agg	gcg	gag	tac	ctg	aag	acc	ttc	aag	gtg	gct	tac	agc	ctc	gac	gga	777
338	Arg	Ala	Glu	Tyr	Leu	Lys	Thr	Phe	Lys	Val	Ala	Tyr	Ser	Leu	Asp	Gly	
339		230					235					240					
341	cgc	aag	ttt	gag	ttc	atc	cag	gat	gaa	agc	ggg	gga	gac	aag	gag	ttt	825
342	Arg	Lys	Phe	Glu	Phe	Ile	Gln	Asp	Glu	Ser	Gly	Gly	Asp	Lys	Glu	Phe	
343	245					250					255					260	
345	ttg	ggt	aac	ctg	gac	aac	aac	agc	ctg	aag	gtt	aac	atg	ttc	aac	ccg	873
346	Leu	Gly	Asn	Leu	Asp	Asn	Asn	Ser	Leu	Lys	Val	Asn	Met	Phe	Asn	Pro	
347					265					270					275		
349	act	ctg	gag	gca	cag	tac	ata	agg	ctg	tac	cct	gtt	tcg	tgc	cac	cgc	921
350	Thr	Leu	Glu	Ala	Gln	Tyr	Ile	Arg	Leu	Tyr	Pro	Val	Ser	Cys	His	Arg	
351				280					285					290			
353	ggc	tgc	acc	ctc	cgc	ttc	gag	ctc	ctg	ggc	tgt	gag	ttg	cac	gga	tgt	969
354	Gly	Cys	Thr	Leu	Arg	Phe	Glu	Leu	Leu	Gly	Cys	Glu	Leu	His	Gly	Cys	
355			295					300					305				
357	ctc	gag	ccc	ctg	ggc	ctg	aag	aat	aac	aca	att	cct	gac	agc	cag	atg	1017
358	Leu	Glu	Pro	Leu	Gly	Leu	Lys	Asn	Asn	Thr	Ile	Pro	Asp	Ser	Gln	Met	
359		310					315					320					
361	tca	gcc	tcc	agc	agc	tac	aag	aca	tgg	aac	ctg	cgt	gct	ttt	ggc	tgg	1065
362	Ser	Ala	Ser	Ser	Ser	Tyr	Lys	Thr	Trp	Asn	Leu	Arg	Ala	Phe	Gly	Trp	
363	325					330					335				340		
365	tac	ccc	cac	ttg	gga	agg	ctg	gat	aat	cag	ggc	aag	atc	aat	gcc	tgg	1113
366	Tyr	Pro	His	Leu	Gly	Arg	Leu	Asp	Asn	Gln	Gly	Lys	Ile	Asn	Ala	Trp	

VERIFICATION SUMMARY

DATE: 09/12/2002

PATENT APPLICATION: US/09/582,340A

TIME: 13:50:25

Input Set : A:\255-013.st25.txt

Output Set: N:\CRF4\09122002\I582340A.raw